

AMENDMENT

A clean copy of the pending claims, following amendment, is provided below. A marked-up copy of the claims, showing the amendments by underlining and bracketing, is attached as Appendix A.

14. A method of identifying probes or analytes comprising:
 - a) labeling each probe or analyte with at least one carbon nanotube;
 - b) exciting the nanotubes; and
 - c) detecting the emission spectra of the excited nanotubes.
15. The method of claim 14, wherein the nanotubes are excited with an ultraviolet (UV) laser or an electron beam.
16. The method of claim 15, further comprising identifying one or more peaks in the optical emission spectrum of each nanotube.
17. The method of claim 16, further comprising determining the wavelength of each peak.
18. The method of claim 14, wherein at least one probe or analyte is attached to at least two nanotubes.
19. The method of claim 14, wherein the probe or analyte is bound to a ligand.
20. The method of claim 19, wherein the ligand is selected from the group consisting of a protein, peptide, polypeptide, carbohydrate, polysaccharide, glycoprotein, nucleic acid, oligonucleotide, polynucleotide, lipid, glycolipid, hormone, receptor, antigen, allergen, antibody, substrate, metabolite, cofactor, inhibitor, drug, pharmaceutical, nutrient, toxin, poison, explosive, pesticide, chemical warfare agent, biohazardous agent, prion, vitamin, heterocyclic aromatic compound, carcinogen, mutagen, narcotic, amphetamine, barbiturate, hallucinogen, waste product, contaminant, virus, bacterium, spore, mold, yeast, algae, amoebae, *Ghiardia*, unicellular organism, pathogen, cell and infectious agent.

31. (New) The method of claim 14, wherein the nanotubes are single wall carbon nanotubes.
32. (New) The method of claim 14, wherein nanotubes attached to different probes or analytes exhibit distinguishable emission spectra.

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33. (New) The method of claim 14, wherein the probes are oligonucleotides, chemically modified oligonucleotides, oligonucleotide analogs or peptide nucleic acids.
34. (New) The method of claim 33, wherein the probes comprise all possible nucleotide sequences for a probe of defined length.
35. (New) The method of claim 34, wherein the probe length is selected from the group consisting of 4, 5, 6, 7 and 8 nucleotides.
36. (New) The method of claim 33, wherein at least one probe is labeled with at least two nanotubes.
37. (New) The method of claim 33, wherein the probes comprise random nucleotide sequences.
38. (New) The method of claim 33, wherein the probes comprise at least one constant nucleotide.
39. (New) The method of claim 33, wherein the probe length is selected from the group consisting of 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 15 nucleotides.
40. (New) The method of claim 33, wherein the probe length is greater than 15 nucleotides.
41. (New) The method of claim 33, further comprising hybridizing at least one probe with at least one nucleic acid.
42. (New) The method of claim 41, further comprising identifying the probes that hybridize with the nucleic acid.
43. (New) The method of claim 41, wherein the nucleic acids are attached to a substrate.
44. (New) The method of claim 43, wherein the substrate is a chip.
45. (New) The method of claim 42, further comprising identifying the sequence of probes that are hybridized with the nucleic acid.
46. (New) The method of claim 45, further comprising moving the hybridized nucleic acid past a detector, wherein the hybridized probes move past the detector in a linear sequence.
47. (New) The method of claim 46, wherein the hybridized nucleic acid moves past the detector in a microchannel or microcapillary.
48. (New) The method of claim 45, further comprising separating unhybridized probes from probes hybridized to the nucleic acid.

New claims 31-48 are added herein. Claim 31 is supported at least by original claim 3 and in the Specification at least at Paragraph 23. Claim 32 is supported at least by original claim 1 and in the Specification at least at Paragraphs 18 and 39. Claim 33 is supported by original claim 6 and in the Specification at least at Paragraphs 60-66. Claim 34 is supported by original claim 7 and in the Specification at least at Paragraphs 61-62. Claims 35 and 39 are supported by original claims 8 and 12 and in the Specification at least at Paragraph 62. Claim 36 is supported by original claim 9 and in the Specification at least at Paragraph 64. Claims 37 and 38 are supported by original claims 10 and 11 and in the Specification at least at Paragraph 63. Claim 40 is supported by original claim 13 and in the Specification at least at Paragraph 62. Claim 41 is supported in the Specification at least at Paragraphs 34 and 39-50. Claim 42 is supported in the Specification at least at Paragraph 40. Claim 43 is supported in the Specification at least at Paragraph 54. Claim 44 is supported in the Specification at least at Paragraph 34. Claims 45-47 are supported in the Specification at least at Paragraphs 34 and 40-47. Claim 48 is supported in the Specification at least at Paragraph 62. Applicants submit that no new matter is added by the amendments and new claims.

RESPONSE

Claims 1-30 were pending in the case. The Office Action mailed 11/29/2002 issued a Restriction Requirement, classifying the claims into Groups I-V and requiring election of the invention to be examined. In response, Applicants elect to examine the claims of Group III (claims 14-20), drawn to a method of identifying probes or analytes. Please cancel, without prejudice or disclaimer, claims 1-13 and 21-30 as drawn to non-elected inventions.

New claims 31-48 are added by amendment herein. Claims 14-20 and 31-48 are presently pending in the case.

Respectfully submitted,



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Dated: December 16, 2002

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Appendix A: Marked Up Copy of Claims Showing Amendments

Please cancel, without prejudice or disclaimer, claims 1-13 and 21-30.

Please add new claims 31-48.